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# SCIENCE

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FRIDAY, SEPTEMBER 7, 1900.

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## JAMES EDWARD KEELER.

THE sudden death of Professor James E. Keeler, Director of the Lick Observatory, which occurred at San Francisco on August 12th, removes one who stood at the very

forefront of astrophysical research. The advanced position occupied by the United States in the development of astrophysics is due as much to Keeler as to any other individual. The high quality of his own investigations, and the effect of his example on the work of others, have been factors of the first importance in building up the physical side of astronomy in this country. The shock caused by his wholly unexpected death has been felt by many, not least by some of those whose friendship for him grew out of a common interest in his own field of science.

As he was still in his forty-third year, and had until recently enjoyed the best of health, there seemed to be every reason to expect that his important contributions to astrophysical literature would continue for many years to come. But a severe cold, contracted in the course of his recent work with the Crossley reflector, developed into pneumonia, which was complicated with heart trouble. From the accounts which have so far reached us it appears that he withstood this first illness, and had just entered a hospital in San Francisco, when he was seized with an apoplectic stroke from which he did not rally.

James Edward Keeler was born at La Salle, Illinois, on September 8, 1857. As a boy he was greatly interested in science, and I have often heard him speak of his early chemical experiments and astronom-

of perspective in a picture. But the pretended views of Fig. 91 are not views at all but maps differently colored. The Nova Scotia St. Lawrence view for instance shows no foreshortening with distances, but the same defect is present in the first sketch. It is an attempt to teach by trickery; for being false maps they cannot convey the idea of what a map really is.

Now that the objections have been stated let me hasten to express a hope that the small size geography has come to stay.

The maps of North America, Fig. 123, and the New England States, Fig. 125, seem to me very beautiful maps, but will Brockton and Haverhill agree that Plymouth is more important in New England geography than they? The make-up of the book is attractive, but it should be much revised before being offered to the schools.

The good features of the volume are developed in the admirable *Second Book*, 'North America.' After occupying a quarter of their space with a hastily written account of general physical geography, the authors present a splendid picture of the varied life and industries of different parts of this country, profusely illustrated. This portion of the book is admirable. Where older or briefer books have contented themselves with stating occupations and products, Tarr and McMurray describe industries so vividly and realistically that the interest is absorbing. Professor Tarr's books make 'easy reading,' and this one is no exception. It is to be hoped the use of the volume will be widespread. The teacher's part will be easy. History and industry are both referred to a geographic basis.

Each volume is closed by statistical tables and a pronouncing vocabulary. The latter would be more valuable did it not attempt a closeness of sound reproduction that demands special knowledge of languages and sounds for proper handling. Some inconsistencies and mispronunciations result. Accent and sounds of Spanish words need special revision. *Tucson* for Tucson is the only misprint noted in the two volumes though a number of errors in the pronunciation are very likely chargeable to the printer. The maps are admirable apart from the hemispheres and Mercator repeated from the First Book.

MARK S. W. JEFFERSON.

*Wireless Telegraphy and Hertzian Waves.* By S. R. BOTONE. Whittaker & Co., London. Cloth. Pp. 116. 35 illustrations.

This little book contains a brief account of the phenomena of Hertzian waves and of the development of the system of transmitting signals known as wireless telegraphy. The first chapter is intended for readers who are not familiar with even the more elementary ideas concerning electrical phenomena. The second chapter gives a brief account of the historical development of wireless telegraphy, and the next chapter on Hertzian waves describes in a very simple manner the methods of generating these waves and some of the methods of detecting them, especially those employing the coherer. The chapter on constructional details, which comprises nearly half the book, contains directions for making in an inexpensive way the apparatus required for experiments in the field of wireless telegraphy.

The comparison which the author makes between the action of a coherer and the action of iron filings in a helix through which an electrical current is passing is rather a misleading one, and the impression is given that it is necessary to have the coherer circuit carefully tuned to the transmitting circuit in order to have the coherer respond. Otherwise for a simple presentation of so difficult a subject the book contains very few misleading statements.

F. L. T.

#### SCIENTIFIC JOURNALS AND ARTICLES.

In the September number of *The American Journal of Physiology* J. Van Denburgh and O. B. Wright present a carefully prepared account of their experiments 'On the physiological action of the poisonous secretion of the Gila Monster (*Heloderma suspectum*).' They find that the poison is essentially like the various snake venoms in its effects. The rate of respiration, the activity of the heart, the irritability of the sensory apparatus, the rapidity of coagulation of the blood, all suffer first an increase, and later a retardation with a gradual total loss of function. This primary quickening and secondary paralysis is not seen in the vasomotor center; instead, the poison causes immediately a great fall in blood pressure due to

vascular dilatation. The motor nerves are entirely unaffected. The red blood corpuscles are often rendered spherical by the poison, and, outside the body at least, the blood may be laked. The secretion of urine is stopped. Death usually results from respiratory paralysis, though, in case artificial respiration is maintained, death ensues from cardiac failure. Lafayette B. Mendel communicates four brief contributions to physiological chemistry from the Sheffield Laboratory of Yale University. In the first of the papers Professor Mendel gives an analysis of three species of West Indian corals examined for iodine and declares that for many organisms iodine is as essential an element as is chlorine for others. The second paper, 'Glycogen formation after inulin feeding,' by R. Nakaseko, concludes with the statement that for the rabbit at least, the glycogen-forming properties of inulin must still be regarded as uncertain or minimal. G. A. Hanford's work on 'The influence of acids on the amylolytic action of saliva,' shows the impossibility of designating any percentage of acid or alkali which inhibits salivary digestion in a definite degree. The absolute amount of saliva and the attendant variation in the quantity of proteid matter present determine the character of the action. Free hydrochloric acid is certain to cause more or less complete inhibition of salivary action. The fourth contribution, by J. H. Goodman, 'On the connective tissue in muscle' is an account of experiments proving that the substance in muscle connective tissue described by Schepilewsky as mucin, is neither a glycoproteid nor a nucleoproteid, but resembles the *stroma substance* described by J. von Holmgren. B. Moore and W. H. Parker report a study of the effects of complete removal of the mammary glands on the formation of lactose. This research consists of an examination of the urine for sugar during gestation and at the time of parturition after complete extirpation of the mammary glands. If lactose be formed elsewhere than in the mammary glands it should appear in the blood at parturition and hence in the urine. The mammary glands of two goats were removed after several weeks of gestation. Parturition took place normally in both cases

and the urine contained no reducing sugar. The authors believe that lactose is formed in the cells of the mammary gland and not from any intermediate substance carried to the gland by the blood.

#### DISCUSSION AND CORRESPONDENCE.

##### THE COPYRIGHT OF UNIVERSITY LECTURES.

TO THE EDITOR OF SCIENCE: In commenting on the decision of the House of Lords in the *Times* v. Lane case, you say (SCIENCE, Aug. 24, p. 319), "Perhaps the lectures given to a class of students, \* \* \* are not made public." On appeal from the Supreme Court of Scotland, this was, however, decided by the House of Lords just fifteen years ago, in the famous case of Caird v. Sime. Sime was a second-hand bookseller in Glasgow, who sold many textbooks to the students of that University. He conceived the idea that he might turn a penny by getting the lectures of Edward Caird, professor of moral philosophy, then the most influential teacher in the University, and publishing them. He did so. The Scotch Courts decided against Caird, but on appeal to the House of Lords the decision was reversed, and a professor or lecturer was held to have his own copyright. It is curious to note, looking to the decision of the Scottish Court in the Caird case, that the minority in the *Times* case in the House of Lords was the Scottish member of the Court of Final Appeal.

R. M. WENLEY.

##### THE INTERNATIONAL PSYCHICAL INSTITUTE.

TO THE EDITOR OF SCIENCE: Observing that my name figures in Bulletin No. 1, July, 1900, of the 'Institut Psychique International' as the member of the Council of Organization for America, I find myself compelled to state publicly that this appearance of my name is unauthorized.

WILLIAM JAMES.

NAUHEIM, August 24, 1900.

##### THE FRENCH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

It appears difficult to secure any information in regard to the French Association for the Advancement of Science. We have been unable to get programs by addressing the officers of the